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ABSTRACT

The properties of "do", its distribution and meaning, are discussed. "Do" is one of the most common error-zones for Indian learners of English. Two analyses of "do" which account for the distribution and meaning of this element are presented. According to the transformational approach, "do" is introduced in sentence structures by a late transformational rule. According to the phrase structure approach, "do" is inserted at the level of the initial structure itself just like any other lexical item. The phrase structure approach has an advantage over the transformational approach because it has some explanatory power which the transformational approach does not have. The most significant effect that the transformational approach makes clear is the fact that in English "do" acts as a dummy element to hold the place. This is necessary in English because it is a language where the subject-place (except in some special cases) cannot be empty. The phrase structure approach accounts for the modal-like behavior of "do." "Do" can be replaced by another apt modal such as "can" or "will." It functions as a modal in several other aspects as well. The diverse properties of "do" can provide insight about the properties of the language to the teacher of English. (SW)

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The Properties of **Do**

K. V. T. Bhat

IN this article, we shall discuss the properties of **do**—its distribution and meaning. This **do** occurs in sentences such as *I don't like pesarattu* and is introduced at a very early stage of learning. Yet **do** is one of the most common error-zones of Indian learners of English. The following are some plausible errors in this area :

- (1) a. *Why worry you ?
b. *I not drink coffee at night.
- (2) a. *Do they went to the cinema or not?
b. *Did they came with you ?
c. *Why he did shout at the speaker ?

In (1), the learner has failed to introduce **do** and in (2), he uses it but is unaware of its properties. Of these errors, (1a) and (2) are quite common among Indian learners of English. Although (1b) is also plausible, for some reason which I haven't analysed, it is not found among them. Whatever be the cause of these common errors—mother-tongue influence etc.—there is no dispute that **do** calls for corrective teaching at the college level. In what follows, two analyses of **do** currently available in the literature

are presented and an attempt is made to show in what ways a teacher of English can benefit from them.

Let us designate the two analyses as the transformational approach and the phrase structure approach. According to the transformational approach, **do** is introduced in sentence structures by a late transformational rule. This is the more conventional and familiar approach, which can be found in books like Broderick (1975). According to the p.s. approach, **do** is inserted at the level of the initial structure itself just like any other lexical item. This approach, advanced in books such as Culicover (1976), is much more sophisticated than the former.

The transformational approach

First, let us look at the environments of **do**. Consider the following sets of sentences :

- (3) a. Does Indira Gandhi believe in democracy ?
b. Who do you prefer, Zarina Wahab or Smita Patil ?
- (4) a. Erica Jong doesn't write plays.
b. Didn't you ever drink your urine ?
- (5) a. Raja Rao has written about cats much more affectionately in his novels than Eliot ever did in his poems.
b. Do you believe in the transmigration of the soul ?
Yes, I do.
- (6) a. Chomsky may be a linguist but he DOES smile occasionally.
b. I DID vote according to my conscience.

The data (3) - (6) show that **do** occurs in interrogative, negative, comparative and emphatic sentences (emphasis shown by capitals). But **do** does not occur in all kinds of interrogative, negative, comparative and emphatic sentences. For example :

(7) a. Are you an admirer of Erica Jong ?

b. Can you lend me your purse ?

c. Has she ever been to Italy ?

(8) a. Lehman is bald but Raja Rao isn't.

b. You haven't sacked her, I believe.

c. Can't you scramble an egg ?

(9) a. Zeenat Aman screeches more loudly than Sophia Loren can.

b. You seem to have met more God-men in England than I ever may in France.

(10) a. The guilty **SHALL** be whipped.

b. I **COULD** have become an actor if I wanted to.

c. You **MUST** shave your beard.

(7) - (10) which are parallel to (3) - (6) show no presence of **do**. This means therefore that the environment for the occurrence of **do** cannot be stated in terms of sentence types.

Notice that in (3) **do** occurs in front of a noun phrase (NP). In (4), it occurs in front of a negative element. In (5), it is either followed by a non-verbal element or by nothing. In (6), it is followed by a verbal element, but it is the **do** which carries the emphasis. We also find that whenever **do** occurs in a sentence, it always carries the

tense. The environments in which **do** does not occur are those in which tense is carried by some verbal element—either a modal such as *can* etc. or the aspectual verbs *have* or *be* or a full verb [cf. (7) - (10)]. This means that the occurrence of **do** has something to do with tense.

One of the facts of English is that tense cannot show in a sentence all by itself. It is always dependent on some element to which it is attached. Furthermore, this item which has to carry the tense should be a verbal element. Modals such as *can*, aspectual verbs such as *have* in *John has eloped with Mary* and *be* in *Nalini is weeping*, passive *be* as in *The millionaire's daughter was kidnapped* and full verbs such as *fall* in *The Professor of Anthropology fell asleep in the middle of the seminar* qualify as verbal elements to carry the tense. [Cf. again (7) - (10) which exemplify this].

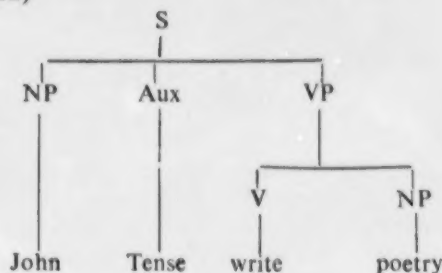
The transformational approach to **do** assumes that there is a transformational rule **do** support which inserts **do** in a sentence structure when the tense is *stranded*, i.e. when the tense cannot be attached to a verbal element. The function of **do**, therefore, is to rescue the stranded tense. In (3) - (6), the tense would have been left stranded if **do** had not been introduced. In (7) - (10), on the other hand, the tense has a verbal element to attach itself to.

Let us now examine what causes the stranding of tense and how the rescue operation is done by **do** support. First consider the position of tense in the underlying structure of an English sentence, e.g. (11).

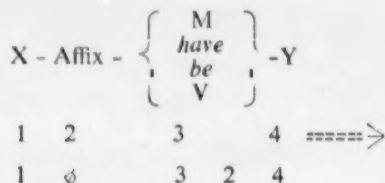
(11) John writes poetry

The underlying structure of (11) is something like (12).

(12)



In (12), *aux* stands for auxiliary verb. Every sentence has an *aux* in the underlying structure and every *aux* has tense. *Aux* can also have a number of other items (see below) but tense is obligatory. In (12), tense is on the left side of the verb. To derive (11), we have to move it to the right side of the verb. This is done by the general rule of *affix* movement:

(13) *Affix* movement

In this rule, *affix* stands for tense, *-en* (of the perfective and the passive) and *-ing* (of the progressive). *M* is any modal of the *can/may* class, *have* is perfective and *be* is either progressive or passive. *V* is a full verb. Like the tense, the elements *-en* and *-ing* also are dependent on other items in a sentence. By deriving tense on the leftmost side and treating it as an *affix*, we are able to account for several facts of English. However, this is not our main concern here.

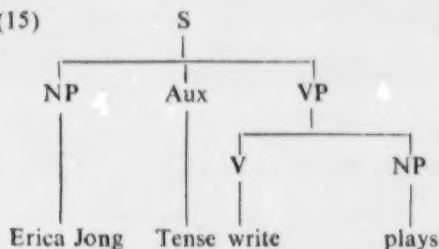
Notice what the *affix* movement does. It moves tense (i.e. the affix) to the right of the verbal element *M*, *have*, *be* or *V*. After the application of the rule to (12) we get:

(14) John write + Tense poetry

The tense in this particular instance is non-past. Other general rules in the grammar will give the sentence (11) from (14).

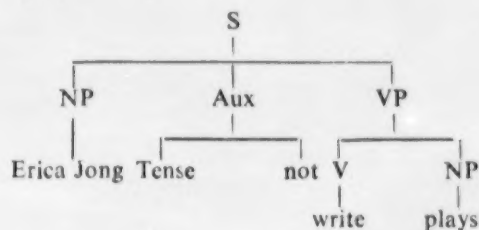
Now consider the sentence (4a). This is derived from:

(15)



A rule called *not* placement inserts *not* to the right of tense. After *not* placement we get:

(16)



Can *affix* movement apply to this structure? Certainly not. This is because, for the rule to operate, nothing should intervene between the *affix* and the verbal element. In (16), *not* intervenes between the two. This results in the stranding of the tense. If we examine the other cases—the underlying structures of (3), (5) and (6)—we find that tense is stranded for similar reasons. In the case of (3), question-formation has caused tense to be brought forward. In (5), comparative deletion has dispensed with the following verbal element. In (6), an emphatic element *emph* intervenes

between tense and the following verbal element. In effect, in none of these cases is the tense immediately followed by a verbal element. It is under such a condition that **do** support is applied. The rule can be stated as follows :

(17) **Do** support

X — Tense — Y

1 2 3 ==>

1 *Do* 2 3

Condition : 1 is not M, *have*, *be*, V.

Do support applies after *affix* movement. Therefore, if Y in (17) is a verbal element, *affix* movement will move tense to the right of it. The condition that X is not M, *have*, *be* or V is imposed to avoid the application of the rule to a structure which has already undergone *affix* movement. The effect of the rule on a structure such as (16) will be to give :

(18) Erica Jong **do** + Tense not write plays.

Other rules will finally derive the required sentence. Throughout (3) - (6), **do** support has operated in a similar way. The transformational approach to **do** thus accounts for all the environments of its occurrence.

The problems

The transformational approach, however, gives rise to a number of questions. To begin with, it posits an item *emph* and gives it the same status as *not*. Otherwise (6) cannot be accounted for. This is not very convincing.

There is another and more serious problem. This has to do with the expansion of *aux* itself. The transformational

approach relies on the conventional expansion of *aux*, as in Chomsky (1957) :

(19) *Aux* → T (Modal) (*have-en*)
(*being*) (*be-en*).

According to this expansion, tense, modal, perfective (*have-en*), progressive (*be-ing*) and passive (*be-en*) are the constituents of *aux* but tense is the only obligatory constituent.

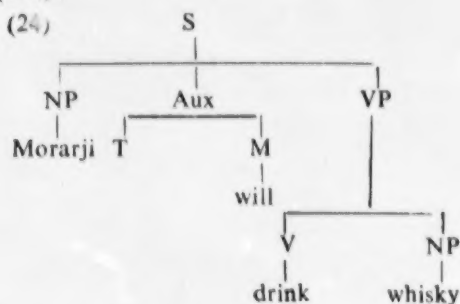
The problem posed by this expansion of *aux* is the following. If we take this analysis of *aux*, then a number of rules will have to involve arbitrary classes of constituents. Any grammatical analysis which necessitates setting up of arbitrary classes is not a happy thing. To see what we mean by this, consider the rule of *affix* movement given at (13). The third item of this rule puts together M, *have*, *be* and V as though they belong to a class. Of these elements, M and V stand for grammatical categories while *have* and *be* stand for lexical items. Moreover, M, *have* and *be* are constituents of *aux*; V is a constituent of the verb phrase (VP). Of course, we can always avoid listing of these individual items by giving them a name such as *verbals*, but this would be begging the question. The class of verbals will be arbitrary anyway.

Another rule which needs this kind of arbitrary classification is **do** support itself. Recall that in writing rule (17), we needed a condition which also involves M, *have*, *be* and V. Without such a condition, the rule is not statable at all.

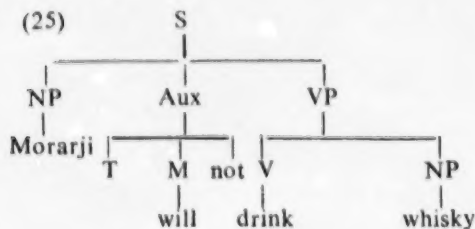
Not placement to which we made a passing reference above, is the third rule which involves arbitrary classification. Consider the position of *not* (contracted as *n't*) in sentences.

- (20) a. Morarji *won't* drink whisky.
 b. The Vicar *couldn't* have married the widow.
 c. You *shouldn't* be peeping through the key-hole.
- (21) a. I *haven't* written a love-letter ever since I began to study grammar.
 b. Bhat *hasn't* got a house of his own.
 c. Mary *hasn't* been going out with anyone.
- (22) a. Chomsky *isn't* being tortured.
 b. You *aren't* drunk, I suppose.
 c. The baby *wasn't* crying for milk.
- (23) a. *Morarji *drinksn't*.
 b. *The police *protectn't* the citizens.
 c. *The painting was torn by someone who *likedn't* it.

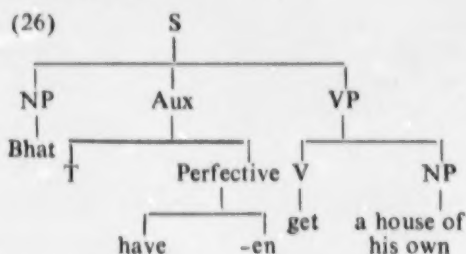
The sentences (20)-(22) are derived by placing *not* to the right of M, *have* and *be* in the underlying structures. Take, for example, the initial underlying structure of (20a):



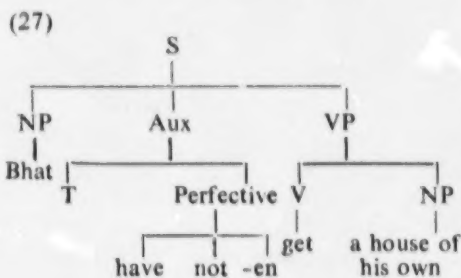
Not is placed to the right of M and we get (25).



(20a) is derived from (25) by other general rules of the language. However, when the *aux* contains more than one optional item, *not* is always placed to the right of the first item following Tense. Consider, for example, the initial underlying structure of (21b):



Not placement places *not* to the right of *have*, i.e. between *have* and *-en*:



The rule of *not* placement can be stated as follows:

(28) *Not* placement

$$X\text{-not-Y-} \left\{ \begin{array}{l} \text{Tense + M} \\ \text{Tense + have} \\ \text{Tense + be} \\ \text{Tense} \end{array} \right\} \text{-Z}$$

1	2	3	4	5 ==>
1	∅	3	4 2	5

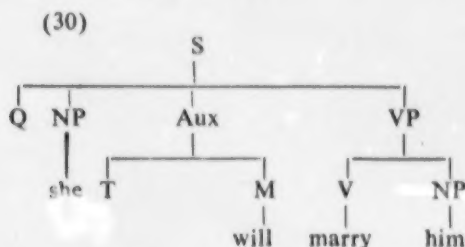
Notice that *not* placement has to classify the items of 4 as a single class for stating the rule. This rule, unlike *affix* movement, leaves out V. That is why the sentences of (23) are all ungrammatical. If tense is not

followed by *M*, *have* or *be*, then *not* is placed to the right of tense itself. We have already seen how this attracts *do* support. [Cf. (15) and (16) above.]

The arbitrary character of such classes becomes much more striking when we consider other types of rules. Consider, for example, *aux* inversion. *Aux* inversion inverts the subject NP with a class of elements which are described by 4 in (28). Consider the derivation of :

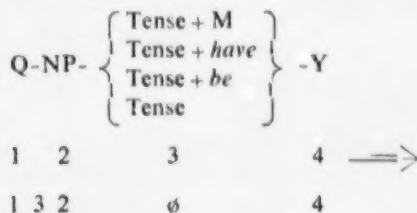
(29) *Will she marry him?*

This sentence is derived from an underlying structure something like :



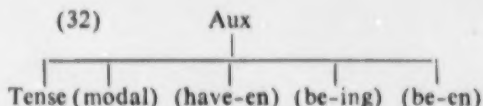
To derive (29), we invert tense + *will* with the subject NP by *aux* inversion. If, on the other hand, tense is immediately followed by *have*, tense + *have* will be inverted; if tense is immediately followed by *be*, tense + *be* will be inverted. If tense is not immediately followed by any one of these items, then tense alone is inverted. This last case will attract *do* support as in (3) above. The rule of *aux* inversion has to be :

(31) *Aux* inversion



Condition: this rule cannot apply if 2 is a question word or whole S is a noun clause.

Aux inversion is a movement rule. It actually moves the constituent 3 to the left of 2. Now, the question to ask is: do the items in 3 form a constituent? They don't. [Cf. the expansion of *aux* given at (19)]. In terms of the tree diagram, the *aux* looks as follows :



The rule of *aux* inversion as stated above does not move any *constituent*. It moves *arbitrary* strings. Such a movement rule is not found elsewhere in grammar. Grammatical theory should not be allowed to move arbitrary strings. The reasons for this are beyond the scope of this discussion.

The arbitrary nature of these rules can be further illustrated if we take other data involving them. Let us look at *not* placement and *aux* inversion again. Consider the following sentences :

- (33) a. John isn't fond of Chinese cuisine.
b. You haven't a car.
- (34) a. Was Raj Narain a boxer?
b. Have you any admirers?

(33) is derived by placing *not* to the right of *be* and *have* as stated in the rule of *not* placement. (34) is derived by moving *be* and *have* as stated in the rule of *aux* inversion. But then, there is a difference between the *be* and *have* in (33) and (34) on the one hand and the *be* of the progressive and the passive and the *have* of the perfective on the other. The former *be* and *have* are the main verbs of these sentences and hence they

belong to the VP and not to the *aux*. The rules of *not* placement and *aux* inversion do not take note of this distinction. They seem to simply refer to any *be* and any *have* in the sentence structure.

Furthermore, the whole approach fails to explain why any *be* and *have*—whether part of the *aux* or of the VP—should behave in the way they do.

The problem of arbitrariness cannot be overcome by expanding *aux* as tense and tense only and putting the optional items—perfective, progressive and passive—in the VP. The rules will still have to involve arbitrary strings. The p. s. approach overcomes these shortcomings. While accounting for the distribution of *do*, it also stakes its claims to some explanatory power.

The Phrase Structure Approach

First, let us see how the p. s. approach accounts for the distribution of *do*. The whole approach relies crucially on several assumptions. The first assumption is that *aux* contains two obligatory items, tense and modal, and no optional items. Thus, *aux* expansion is stated as :

$$(35) \text{ Aux} \Rightarrow \text{T M}$$

Modal, therefore, is no longer an optional item as in the conventional approach. The other items—perfective, progressive and passive—are optional and part of the VP. The second assumption is that *do* is a modal and belongs to the same class as *will*, *shall*, *can* etc. This means that in the initial underlying structure of every sentence, there is either *will*, *shall*, *can* etc. or *do*. The other assumptions have to do with rules like *do* deletion and *do* replacement. We shall come to these presently.

Consider now the assumption about *do* being a modal. According to this, modal is to be expanded as :

$$(36) \text{ M} \Rightarrow \left\{ \begin{array}{l} \text{do} \\ \text{will} \\ \text{shall} \\ \vdots \\ \vdots \\ \vdots \end{array} \right\}$$

(36) claims that *do* occurs only in those places where *will* etc. can occur. This, in fact, is the case :

- (37) a. John *won't* drink.
b. John *doesn't* drink.
- (38) a. *Will* Prema act in a farce ?
b. *Does* Prema act in a farce ?
- (39) a. Nalini *SHALL* cook.
b. Nalini *DOES* cook.

In (37)-(39), *do* and the other modals show the same kind of distribution.

However, *do* cannot *always* appear where the other modals can. Consider, for example, (40).

- (40) a. I'll escort the lonely woman.
b. ?

(40a) does not have a version in which *do* contracts with the subject NP in the same way as *will*. Why so ? This is because for a modal to contract with a subject NP, the modal has to be unstressed. In (40a), the modal is unstressed. Now, there is a rule in English—posited by the p. s. approach—which deletes the unstressed *do* in a specified environment. The rule is stated as follows :

$$(41) \text{ Do deletion} \\ \text{X - do - V - Y} \\ 1 \quad 2 \quad 3 \quad 4 \quad \Rightarrow \\ 1 \quad \emptyset \quad 3 \quad 4$$

Condition : 2 is unstressed.

Since this rule removes the unstressed *do*, there is no question of its occurring in the same way as the contracted *will* in (40a).

in (47), then we will derive (42a). Thus even in those sentences in which there is no overt modal, there is in fact the modal **do** in the initial underlying structure. This **do** is later replaced by either *have* or *be*.

The **do** replacement rule is not an *ad hoc* mechanism devised solely to account for (44). It also accounts for (42), (43) and (45). Thus **do** does not appear in sentences followed by *have* or by *be* (except perhaps in a few cases which we will not discuss here) because of the existence of the rule of **do** replacement. That is why (45) as well as the *b* and *d* sentences in (42) and (43) are all ungrammatical.

What is the explanatory power of this approach? First of all, it accounts for the modal-like behaviour of **do**. Secondly, by positing **do** replacement, it accounts for the modal-like behaviour of *be* and *have* as well. Thirdly, by expanding *aux* obligatorily as tense and modal, it avoids arbitrary classification of constituents. To clarify this last point, let us see how rules such as *not* placement and *aux* inversion can be reformulated. *Not* placement can be reformulated as:

(48) *Not* placement

X-not-Aux-Y

1	2	3	4	==>
1	∅	3	2	4

This rule will ensure that *not* is always placed to the right of modal (*do*, *can*, *will* etc.), or to the right of *be* or *have* derived under modal by **do** replacement. *Aux* inversion can be stated as:

(49) *Aux* inversion

Q - NP - Aux - X

1	2	3	4	==>
1	3	2	∅	4

This rule will ensure that tense and a modal (*do*, *can*, *will* etc.) or tense and *be* or *have*

derived under modal by **do** replacement are fronted. Notice that in (48) no arbitrary classification is involved. Similarly, (49) does not move any arbitrary strings either. *Aux* is not an arbitrary string. It is well defined by (35). The question why *be* and *have* behave the way they do in (48) and (49) is answered by **do** replacement. You may see that even the rule of *affix* movement can now be stated in a simple and elegant way. Thus, *affix* movement can be reformulated as:

(50) *Affix* movement

X-Affix -				{	M V	}	-Y	
1	2		3		4	==>		
1	∅		3	2	4			

If *affix* is tense, then it will be attached to the following modal (*do*, *can*, *will* etc.) or to *be* and *have* derived under modal by **do** replacement or in the absence of these to a full verb (*sleep*, *fall* etc.). The difference between the older version of *affix* movement (13) and the present version is clear. The former has to mention M, *have*, *be* and V as a class. The class of M and V in (50), however, is not arbitrary in the sense in which the class of M, *have*, *be* and V is arbitrary.

To recapitulate the main points of this discussion, we said that **do** is one of the error-zones of Indian learners of English. Then we presented two analyses of **do** available in the literature, which account for the distribution and meaning of this element. We also pointed out that the p. s. approach has an edge over the transformational approach because the p. s. approach has some explanatory power which the transformational approach does not have. Now the question to ask is: what are the implications

of these two approaches for the teacher of English?

The pedagogical implications

Before we set out to answer this question, we can begin by asking a more fundamental question: given conflicting grammatical analyses, what does a teacher do? Certainly, he is not going to teach *grammar*. He is going to teach *language*. This rules out grammatical discussion or a lecture on grammar on a language teaching course. As experienced teachers know very well, a teacher's grammar is very different from a linguist's grammar. This is not to say that what is a correct sentence for a linguist may be an incorrect sentence for the teacher. By and large, the 'facts' of grammar are the same. But no sensible teacher of English will teach **do** the way it has been discussed above. Then what is the use of such a discussion for the teacher?

It must be admitted that a large part of any such discussion is of no use for the teacher. He is not directly concerned with formal rules, nor with their elegance. That is why transformational-generative grammar cannot offer any *tangible* aid to the teacher of English. Yet it seems to me that the whole thing is useful in some sense. It can illumine some of the intuitions of the teacher himself about the language he teaches. For example, the modal-like behaviour of **do** and *have* may be familiar to the teacher all the time. The p. s. approach accounts for this in a satisfactory manner.

The teacher's grammar is essentially eclectic: he takes insights from all competing theories and approaches. If so, both the transformational approach to **do** and the p. s. approach have something to offer him.

To my mind, the most significant thing that the transformational approach brings out is the fact that in English **do** is a dummy element. Semantically, it is null. In this, it is comparable to the expletive *it* as in *It is a fact that the police raped the woman*, or to the expletive *there* in *There is a unicorn in the garden*. One of the functions of a dummy is to hold the place. Thus in these sentences, *it* and *there* hold the subject-place. This is necessary in English because it is a language where the subject-place (except in some special cases) cannot be empty. In the same way, tense cannot show without some element to attach itself to. The dummy **do** fulfils this function.

The p. s. approach accounts for the modal-like behaviour of **do**. This is because **do**, in fact, *is* a modal in this analysis. It can be replaced by another apt modal such as *can*, *will* etc. Like any other modal, **do** can also carry emphasis, take *not* and invert with the subject NP. Like any other modal, **do** carries the tense as well. Besides, the p. s. approach accounts for the *aux*-like behaviour of *be* and *have*, whereby *be* and *have* function like modals under specified conditions.

These diverse properties of **do** are clearly brought out by the two competing analyses. That the analyses themselves are mutually conflicting need not bother the teacher. He is interested in the insight that each analysis provides and herein lies the contribution of formal descriptions to teaching.

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